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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION
OFFICE OF PESTICIDE PROGRAMS REGISTRATION DIVISION (7505P)

DP Barcode No.: D446752 File Symbol No.: 432-RLII Decision No.: 520689
PC Code: 129140 Company Name: Bayer Environmental Science
Food Use: No Action Code: R 060 Product Name: Bayothrin Technical

DATE OUT: July 3, 2018

SUBJECT: **PRODUCT CHEMISTRY REVIEW** **MP [X] EP [ ]**

FROM: Bruce F. Kitchens, Chemist
Chemistry, Inerts and Toxicology Assessment Branch (CITAB)
Registration Division (7505P)

Bruce F. Kitchens
7.3.18

TO: RM #03, Kable Davis
Invertebrate and Vertebrate Branch 1
Registration Division (7505P)

INTRODUCTION:

The registrant, Bayer Environmental Science, is submitting product chemistry data in response to a previous product chemistry review (D435645 2/15/2018). In that review, it was determined that additional product chemistry data was required to support the proposed manufacturing use product Bayothrin Technical. The active ingredient in this product is Transfluthrin at a label nominal concentration of 99.68%a.i. This product is intended for use in the manufacture of insecticide end-use products. With this package, the registrant has submitted product chemistry data contained in MRID# 505638-01. The Chemistry, Inerts and Toxicology Assessment Branch (CITAB) has been asked to review this submission.

SUMMARY OF FINDINGS

CITAB has reviewed this submission and reports the following findings:

1. This product is produced from an integrated formulation system. This means that the active ingredient is the result of intended chemical reactions.

2. The registrant has submitted the following study:

   Eyrich, U: Ziemer, F., Transfluthrin (AE 0035474), technical substance: The oxidation or reducing properties; Bayer AG, Crop Science Division, Frankfurt am Main, Germany; Report No.: PA18/032; Document No.: M-619309-01-1; 2018-04-05; pages 15; MRID# 505638-01.

3. The registrant states that this study was performed in compliance with EPA Good Laboratory Practices 40 CFR 160 as amended. This study was inspected by the quality assurance unit of the performing laboratory.

4. A brief synopsis excerpted from the study follows:

Procedure

Six 1 g weighings of the test item were placed into two series of three glass flasks. 10 g of ammonium dihydrogen phosphate, 10 g of iron powder and 10 mL of an aqueous solution of 0.1 N potassium permanganate, respectively were added to each flask (starting time of the experiments) and mixed with the test item.
Three flasks were covered with Para film in order to observe possible formation of gas (series A). The formation of gas was monitored at 0 minutes, 15 minutes, 1 hour and 24 hours after starting the experiments.
The other three flasks were also covered with Para film (series B). Temperature sensors, which were connected to a data logger, were placed in each flask for 24 hours.
The temperature of the three samples and the room temperature were monitored for 24 hours in intervals of 1 minutes.
The temperatures at minute 0, minute 15, hour 1 and hour 24 are given in this report.

Results:

Individual Results

At minute 0, minute 15, hour 1 and hour 24 no gas evolution (experiment series A) could be observed using ammonium dihydrogen phosphate, iron powder or 0.1N aqueous potassium permanganate solution.
The temperature of all test mixtures (series B) did not significantly vary in the course of the experiments and never exceeded ambient conditions, i.e. the temperature increase was below 5°C.
The observed temperatures are listed in Table 1.

Table 1 Temperatures measured in the test mixtures (experiment series B)

	Temperature (°C) series B			
Time:	0 min	15 min	1 hour	24 hours
Ammonium dihydrogen phosphate	23.4	23.8	23.9	23.1
Room temperature	23.9	23.9	24.2	23.3
Iron powder	23.1	23.6	23.7	22.9
Room temperature	23.7	23.8	24.2	23.3
Potassium permanganate solution 0.1 N (0.02 mol/L)	23.9	23.9	23.9	23.3
Room temperature	23.7	23.8	24.2	23.3

Final Results

Transfluthrin (AE 0035474), technical substance, was found to be non-reactive at room temperature with ammonium dihydrogen phosphate, iron powder and aqueous solution of 0.1 N potassium permanganate in terms of significant temperature increase or evolution of gas.

No significant temperature increase was observed for all applied test mixtures, i.e. the temperature increase was clearly below 5°C in the course of the experiments. No evolution of gas was observed for all applied test mixtures.

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CONCLUSIONS:

CITAB has reviewed this submission and concludes the following:

1. This submission (MRID# 505638-01) satisfies the data requirement as specified in 40 CFR 158.310 for Physical and Chemical Properties with respect to Oxidation/Reduction: chemical incompatibility (830.6314).